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Climate Change: Selected Federal Economic Development Tools and Policy Considerations

Social, economic, and ecological risks associated with climate change, such as those documented in the U.S. Fourth National Climate Assessment and by the Intergovernmental Panel on Climate Change, have significant economic development implications. These include increased demand for federal economic development interventions, such as for infrastructure resiliency, and support for labor and economic dislocations resulting from energy transition. This In Focus considers potential federal economic development tools to help address climate change, as well as policy considerations.

Climate and Economic Development

Climate change countermeasures take two general approaches: (1) *mitigation*, to reduce greenhouse gas (GHG) emissions or enhance GHG removals from the atmosphere; and (2) *adaptation*, to increase resilience to climate change's effects. Some measures span both approaches. Economic development activities can also play a role in both.

Mitigation options typically target (1) supply-side technologies or physical assets, such as transitioning from fossil fuel to renewable energy sources; or (2) redirecting demand-side consumer choice or social behavior, such as through improved consumer information, GHG pricing mechanisms, or tax incentives for GHG-reducing actions. However, even with globally aggressive actions to abate GHGs, the future global average temperature would likely increase above 1.5° Celsius (from a preindustrial baseline) by mid-century. Therefore, climate change adaptation has become an increasingly bipartisan objective (for example, H.R. 4058 in the 116th Congress).

Increases in the frequency and severity of natural disasters has raised congressional awareness of, and interest in, disaster resilience and response. Adaptation could avoid human and societal losses and reduce fiscal risks of federal relief and recovery expenses. Adaptation may include new policies, such as disaster funding reforms, or technologies such as resilient building technologies and other infrastructure. Climate change also creates other changed circumstances, including shifting growing seasons, opening of Arctic navigation routes, and the impetus to develop new technologies.

Direct Tools and Programs

Several federal economic development programs have direct application to climate mitigation and adaptation.

Renewable Energy Incentives

Energy infrastructure is a common target for economic development investment. A number of federal agencies and entities provide incentives for research, development, and deployment of renewable energy (RE) systems that reduce emissions. The President's FY2022 budget requests technology demonstration funding to advance renewable technologies and to support new economic bases and jobs. In existing programs,

- The Department of Agriculture's (USDA) Rural Energy for America program, first established to support rural economic development, funds energy audits and RE technical assistance for small businesses. See CRS Report R40913, *Renewable Energy and Energy Efficiency Incentives: A Summary of Federal Programs*, by Lynn J. Cunningham and Rachel J. Eck.

- The Department of Energy's (DOE) State Energy Program funds states to deploy RE and promote energy efficiency.

- DOE's Renewable Energy Production Incentive provides payments to eligible facilities to encourage private investment and subsidize initial operations.

Energy Transition Programs

Historically, the federal government has subsidized (largely via tax policies) fossil fuel and nuclear power industries and electricity generation, though the emphasis of federal investment has shifted over the past decade. See CRS Report R44852, *The Value of Energy Tax Incentives for Different Types of Energy Resources*, by Molly F. Sherlock.

Regions and businesses continue to make major transitions in their energy systems and fuel trade. Transition efforts and considerations include increasing access to reliable energy supplies, developing more efficient energy technologies, and reducing energy poverty; rapid changes in the relative costs of energy technologies and fuels, particularly for certain RE equipment, natural gas, and oil; and the expanding natural gas supply and associated pollution risks. Transitions also relate to various regulatory and financial incentives aimed at decreasing fossil fuel use.

Although these transitions are driven primarily by market forces and public policy, they may also be influenced by efforts to curb high-emissions energy uses, such as coal combustion. Several federal programs address the economic impact of the coal industry's decline, including:

- the Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative, an Appalachian Regional Commission (ARC) program available to applicants within its service area;

- the Assistance to Coal Communities (ACC) program, provided nationwide by the Economic Development Administration (EDA); and
- a pilot economic development fund to states for Abandoned Mine Reclamation (AML) efforts.

These programs provide assistance to communities affected by the coal industry's decline. Funding may be used for a variety of economic and community development activities and programs, such as workforce training and development, entrepreneurship and business development, infrastructure, and community capacity. Although the POWER Initiative and ACC address the impacts of the coal industry's decline, they are not intended to facilitate or incentivize energy transition away from fossil fuels. The EDA's Nuclear Closure Communities program funds similar uses to address economic dislocation from the nuclear power industry's decline. See CRS Report R46015, *The POWER Initiative: Energy Transition as Economic Development*, by Michael H. Cecire; and CRS Report R46266, *The Abandoned Mine Reclamation Fund: Reauthorization Issues in the 116th Congress*, by Lance N. Larson.

Resiliency and Hazard Mitigation

The federal government also promotes resilience in the built environment through various programs. Although often described as risk "mitigation" measures (i.e., to mitigate the future impact of hazards or disasters), they can be considered climate adaptation measures.

The Federal Emergency Management Agency provides both pre- and post-disaster mitigation assistance through the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) program, the Building Resilient Infrastructure and Communities (BRIC) program, and the Public Assistance (PA) program. FMA and BRIC grants are awarded competitively for pre-disaster investments. HMGP and PA are only available within a presidentially declared disaster area for post-disaster reconstruction, which may include resilience projects. See CRS Insight IN11187, *Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance*, by Diane P. Horn; and CRS Report R46749, *FEMA's Public Assistance Program: A Primer and Considerations for Congress*, by Erica A. Lee.

Following major disasters, Congress has used the Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) authorities to fund long-term disaster recovery (CDBG-DR). In recent years, CDBG-DR appropriations have included dedicated set-asides for relocation assistance and resilience-building to mitigate future disaster risk (CDBG-MIT). For more information, see CRS Report R46475, *The Community Development Block Grant's Disaster Recovery (CDBG-DR) Component: Background and Issues*, by Michael H. Cecire and Joseph V. Jaroscak.

Permissive Tools and Programs

While some federal programs exist with direct application to climate mitigation or adaptation, other programs also could be used to address climate change.

- HUD's CDBG program provides flexible funding which may be used for GHG mitigation and adaptation, such as "green" or resilient infrastructure, energy efficiency, weatherization, and technical assistance. See CRS Report R43520, *Community Development Block Grants and Related Programs: A Primer*, by Joseph V. Jaroscak. In 2016, for example, HUD required grantees to include climate change considerations as part of CDBG planning (81 *Federal Register* 90997).
- The EDA's Economic Adjustment Assistance and Public Works programs provide flexible funding for a variety of uses, including infrastructure, revolving loan funds, or planning. See CRS Report R41241, *Economic Development Administration: A Review of Elements of Its Statutory History*, by Julie M. Lawhorn.
- Active federal regional commissions like the ARC provide flexible economic development grants within their service areas. See CRS Report R45997, *Federal Regional Commissions and Authorities: Structural Features and Function*, by Michael H. Cecire.
- USDA offers grants, loans, and credit programs for community and economic development purposes. See CRS Report RL31837, *An Overview of USDA Rural Development Programs*, by Tadlock Cowan.

Policy Considerations

Congress may consider several policy options while considering climate and economic development objectives:

- Consolidate and expand direct climate-relevant economic development programs—such as in energy transition and economic diversification—or provide targeted guaranteed income/employment for climate-related industry dislocations;
- Adapt large economic development efforts, like CDBG or the EDA's programs, to include more robust sustainability criteria;
- Scale intergovernmental economic development models like the federal regional commissions to cover all U.S. regions, with direction and resources to make strategic investments in climate mitigation and adaptation; or
- Leverage the federal government's influence and market power to promote climate-sensitive policies, such as in fleet vehicle electrification, broad telework adoption, and sustainability-oriented contracting and procurement.

To complement and support such measures, Congress may also assess the effectiveness of strategic research, development, and deployment to reduce GHGs, enhance economic opportunities, and adapt to climate change.

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